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ABSTRACT

Part of an ongoing longitudinal research project, a study was made to develop a method and a multilevel model for evaluating at its earliest stages the relationship between a mother and her child. The main hypothesis of the study was that the early mother-child relationship, consisting of maternal responses and a mother's images of her role in child rearing, is to a considerable extent based on parity, mother's personality, the state of mother's marriage, and on her experiences of parental behavior in childhood. Using a follow-up approach, the research investigated whether these factors would form a basis for predicting child development. Subjects were 309 primiparous and 182 secundiparous mothers seen 3 to 5 days after delivery. A follow-up study of the mothers and their children (born in 1971 or 1972) was carried out immediately before the children began school in 1978 and 1979. Several psychological, and psycho-physiological tests and questionnaires were used. Step-wise regression analyses were carried out using sumscales based on factor analyses. Results supported the main hypothesis. Adequacy in mothering and intentions to show love in child rearing predicted development of goal directed, sociable, adaptive behavior. Intentions to use authoritarian control predicted development of egoistic, exasperating behavior. (Author/RH)

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THE ROOTS AND CONSEQUENCES OF EARLY MOTHER - CHILD RELATIONSHIP: a multilevel model of evaluation.

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SUMMARY

This report is part of an ongoing longitudinal research project, "The Oulu Mother - Child study", currently under way in the Department of Pediatrics, University of Oulu, Northern Finland. The main purpose of the study is to develop a method and a multilevel model for evaluating early mother-child relationship. The main hypothesis is that early mother-child relationship consisting of maternal responses and a mother's images of her role in child rearing are to a considerable extent based on the parity, a mother's personality, the state of her marriage, and on her experiences of parental behaviour in childhood. This last component has both direct and indirect impact on early mother-child relationship mediated by the parity, a mother's personality and marriage. Using a follow-up approach the question is whether these factors would form a basis for predicting child development. 309 primiparous and 182 secundiparous mothers were investigated 3-5 days after delivery. A follow-up study of these mothers and their respective children (born in 1971 or 1972) was carried out just before the children had to start school (in 1978 and 1979). Several psychological, and psycho-physiological tests and questionnaires have been used. Step-wise regression analyses were carried out using sumscales based on factor analyses. The results lend support to the main hypothesis. Adequacy in mothering and intentions to show love in child rearing predicted development of goal directed, sociable, adaptive behaviour. Intentions to use authoritarian control predicted development of egoistic, exasperating behaviour.

INTRODUCTION

While investigating the ability of mothers to recognize their baby's cry (Wasz-Höckert et al. 1968) the question arose whether it was possible to evaluate the early mother-child relationship by studying the most primary maternal psychophysiological reactions to the infant's cry stimulus in conjunction with psychological maternal factors. On the basis of these findings a new prospective, longitudinal project, "The Oulu Mother-Child Study", was started in 1968 in Oulu, Northern Finland, with the aim of finding potential risk factors and groups of mothers revealing an inadequate early mother - child relationship.

A pilot study of 63 mothers was carried out using a follow-up approach (Seitamo & Wasz-Höckert, 1975). The results of these studies were promising: Strong thermographic warmth reactions of mother to baby cry signal, sociability, a low degree of neuroticism and of impulsivity were the most important predictors of favorable socio-emotional development of the child. Further hypotheses were elaborated for the main study. The main purpose of the project is to develop a method and a multilevel model for evaluating early mother-child relationship. In using a follow-up approach the question is whether the factors of the model would form a basis for predicting the child's cognitive,

affective and social development. The project constitutes an extension of our earlier studies in maternal responses to baby cry, conducted by Professor Ole Wasz-Höckert.

In this report the main focus is on psycho-social-educational aspects of early mother-child relationship. The author has developed and had overall responsibility for the design methodology and for processing the analyses of this part of the project.

MODEL OF EVALUATION AND HYPOTHESES

A multilevel model was developed for evaluation of the early mother -child relationship with a wide context of factors which were regarded as being important for this relationship and its development (Figure 1).

(insert fig. 1 here)

This model is a considerably abbreviated and simplified version of the model now under elaboration. The general hypothesis is that an early mother - child relationship consisting of maternal responses and a mother's images and intentions in child rearing is to a considerable extent based on the parity, a mother's personality, the state of her marriage, including the attitude to pregnancy, and on her experiences of parental behaviour in childhood. This last component has both direct and indirect impact on early mother - child relationship mediated by parity, a mother's personality and marriage.

Earlier we have reported results on the function of personality and parity and wantedness-unwantedness of the child (Seitamo et al. 1979, 1982, 1983, 1986). The correlative results indicate that neuroticism, impulsivity and non-sociability were connected with a mother's negative experiences of parental behaviour in childhood and further with insecurity and negative maternal responses, and with a correspondingly higher degree of punitive practices which she intended to use in child rearing. These correlations were much higher in the secundiparous mothers than in the primiparous mothers.

Here the problems and hypotheses are as follows:

1. Attitudes and practices in child rearing from one generation to the next are transmitted by direct learning. In other words: the high degree of a mother's own experiences of rewarding/punitive parental behaviour in childhood is connected with a high degree of positive/negative feelings in mothering, and with a high degree of love/punitive practices which a mother intends to use in bringing up her child.

2. Factors of a mother's personality, the state of marriage, wantedness - unwantedness of the child, cognitive intentional attitudes towards pregnancy (planned pregnancy and an interest in obtaining information about child rearing) would all remove the pre-

dictive value of a mother's own experiences in childhood as regards adequacy in mothering, intentions to show love and to use control in child rearing.

3. Adequacy in mothering and intentions to show love and to use authoritarian control assessed shortly after child birth have a predictive value for child development: high degrees of adequacy in mothering and of intentions to show love in child rearing and a low degree of authoritarian control predict positive socio-emotional child development.

SUBJECTS

Phase I: studies after delivery

All primiparas (for about 1 year) and all secundiparas (for more than a half a year) who were admitted to the University Hospital in Oulu 1971 and 1972 and who delivered a healthy baby were studied 3 -5 days after delivery. The subjects are 309 primiparas (mean age 22.2 yrs) and 182 secundiparas (25.5 yrs). Mothers over 36 years were excluded. The mothers coming from rural area comprise a total sample.

Phase II: the follow-up study

A follow-up study of these mothers and their respective children (born in 1971 or 1972) was carried out just before the children had to start school (in 1978 and 1979). Because of large migration of young families in Northern Finland (about 40 % of this serial) and

emigration to Sweden in the 1970's (10 %) it was not possible to trace the addresses of all the families. 228 (73.8 %) of the primiparous mothers and 126 (69.2 %) of the secundiparous mothers answered a questionnaire and 120 of them and their respective child living within an area of about 200 km of Oulu, were investigated personally. The mean age of the children was 7 years 5 months. Based on the data of phase I there were no differences between the socio-economic status of the mothers in the follow-up study group and in the drop-out group.

METHODS AND STATISTICAL ANALYSIS

Phase I

The data of phase I is based on 1) inventories and questionnaires filled in by the mothers 3-5 days after delivery at the hospital, in a quiet room, and 2) on recording the temperature of the skin by thermovision over the anterior chest wall before and after a baby cry stimulus from a tape recorder. This last component is not included in this report.

To study the structure and dimensions of the instruments and to reduce the number of variables factorizations of the variables within each subtopic were performed (orthogonal; Varimax solution). On the basis of the factors, dimensions were constructed by summing up the scores of the variables which had the highest loadings on the factor in question. Single variables were used for testing hypothesis 1, and dimensions for testing hypotheses 2 and 3.

1. The component of maternal responses consists of a mother's ratings of her feelings, experiences and attitudes in mothering her newborn baby (5-point scales in the form: e.g. I feel/have ... very much ... hardly at all). The scores of the following variables were summed up on the basis of the factorization and were nominated "adequacy in mothering": 1) I am capable of

and, 2) secure in taking care of the baby, 3) have milk, 4) breastfeeding was successful at the beginning and, 5) later on, and 6) easy at the beginning and, 7) easy now.

2. Child rearing intentions include 7-point scales on 19 questions in the form: e.g. I am going to use physical punishment ... hardly ever ... very often. Two sum-scales based on factorization (3 factor solution) were constructed. Dimension of love was based on a clearcut factor and consists of the following variables: I intend to show 1) love, 2) reward child, 3) reinforce to express joy/pleasure, 4) joke with child, 5) comfort child, 6) take child on lap and, 7) talk with child.

Dimensions of authoritarian control includes the following variables: 1) I intend to use punishment generally, 2) physical punishment, 3) enforcement, 4) strict rules, 5) scoldings, 6) get angry with child, and, 7) restrict crying. This dimension may be arbitrary because it consists of stronger and milder (underlined) control. In 5 factor solution these variables were loaded on two separate factors. The larger dimension was constructed because each variable had a loading of over .50.

3. The component of a mother's own childhood consists of 5-point rating scales about one's own mother's/-

father's behaviour. Punitive, inconsistent, demanding behaviour were loaded on the same respective factors. The sum-scales were nominated punitivity of one's own mother/father. On the same basis rewarding and tender behaviour and discussing sexual matters formed the dimensions of one's own mother's/ father's love.

4. Personality is measured by Eysenck's Personality Inventory (EPI-C): the traits are neuroticism (stability-instability), impulsivity, sociability and defensivity (lying - scale); and by Raven Progressive Matrices (Finnish Army Version) which measures cognitive style of solving problems analytically.

5. The component of marriage includes several subtopics. The following variables of this component are included in this report: happiness of the marriage or relationship (a sum-scale of two questions: the marriage/-relationship is successful/happy; 5-point ratings scales); duration of planning pregnancy (in months); wantedness - unwantedness of the child (4-point scale); parity: the data of primi- and secundiparous mothers are analyzed separately.

Phase II: follow-up study

A large questionnaire mailed to all mothers consisted of questions about the life situation of the family and about child development. Personal investigation

of the mother included an interview and a rating by the investigator. Wechsler Intelligence Scale for Children, Family Relation Test (Bene-Anthony), drawing test and an observation were performed for investigation of the child. In this report a few data based on questionnaires are included. The mothers/parents rated personality traits of the child (5-point rating scales; e.g. very active - hardly at all) and typical ways of behaving in social situations and of solving problems/-quarrels (5-point scale, e.g. when angry, throws things ... very often ... hardly ever). The factor-scores were used as the basis for the dimensions: A few single variables of a child's attitudes toward school before starting it are included.

Statistical analyses for testing the hypotheses

Hypotheses 1 and 3 were tested by using Spearmans r-correlation and hypothesis 2 by performing step-wise regression analyses (a programme of HYLPS, Computer Center, University of Helsinki).

RESULTS

Function of learning

The correlations testing the first hypothesis (table 1) lend support to the hypothesis of the significance of learning but there are clear differences between the primiparous and secundiparous mothers.

(insert table 1 here)

It is the rewarding attitudes of one's own mother which have strongly influenced a primiparous mother's maternal responses and intentions in child rearing. In the secundiparous mothers these connections are very weak, though in the same direction as in the primiparous mothers. Contrarywise, for the secundiparous mothers punitive attitudes of one's mother have been of more significance.

Feeling breastfeeding as pleasant and successful, and desire to have her baby beside her are typical maternal responses for a primiparous mother who has had a rewarding mother. She intends to show love to her child by rewarding and reinforcing positive feelings in free, joyful communication and by not avoiding matters difficult to discuss.

For the secundiparous mothers one's own mother's punitivity has an especially strong connection with her feelings of pain when breastfeeding the baby, a feeling based on a complicated psycho-physiological mechanism which may indicate severe disturbances of both a psychological and psychophysiological level. Such punitivity also has an impact on her motivation to take care of her child. For the primiparous mothers it has prevented them from feeling adequate in

mothering.

The direct link from the punitive attitudes of one's own mother to a mother's intentions to use punishment is very strong. This is especially true of physical punishment for both mother groups, though the intentions of the primiparous mothers to use punishment generally are not as closely bound up with her experiences in childhood. In addition, punitive experiences in childhood are negatively correlated with a mother's images and intentions of being a liberated, rewarding mother to her child. Naturally enough, the link runs more intensively from the mother to her daughter than from the father (Seitamo & Wasz-Höckert 1983).

Adequacy in mothering

The best regression model (table 2) explained very significantly 9 % of the total variation on the data about adequacy in mothering for primiparous mothers and 14.7 % for secundiparous mothers. Personality

(insert table 2 here)

factors and satisfaction with one's own upbringing were the core factors which explained most of the variation in adequacy in mothering for both groups of mothers, though there were differences in their emphasis.

Personality factors: sociability, nonanalytical approach to problem solving and a low degree of defensivity explained the greatest proportion of the total variation (7.7 %) for the primiparous mothers. Satisfaction with one's own upbringing was of some significance. The addition of further variables will remove 2.9 % of the unexplained variation but the gain brought about by each single variable is small, the highest proportion of them being impunitivity of one's own father (0.6 %), one's own mother's love (0.5 %), low degree of neuroticism (0.5 %), planned pregnancy (0.4 %) and interest in obtaining knowledge about upbringing (0.4 %).

Circumstances in a mother's own childhood were very clearly the most important predictors of the secundiparous mother's adequacy in mothering: satisfaction in one's own upbringing and a low degree of one's own mother's inconsistent, punitive behaviour explained 7.1 % of the total variation. Personality factors: sociability and low degree of impulsivity were also of high predictive value (5.5 %).

A cognitive, goal directed approach towards child rearing by planning pregnancy and by obtaining information about upbringing were of higher predictive value for the secundiparous mothers than for the primiparas. A low degree of defensivity (0.5 %) and a low degree

of neuroticism (0.4 %) were the most significant additional factors, but these and the other factors were excluded from the model because of the small gain in the r^2.

Intentions in child rearing

Dimension of love

The best regression model (table 3) explains very significantly 6.5 % of the variation on the data about a mother's intentions to show love in child rearing for the primiparous mothers and significantly 7.8 % of it for the secundiparous mothers.

(insert table 3 here)

A mother's personality emerged as the most important single factor explaining variation in intended loving practices in upbringing in both mother groups. For the primiparous mothers it was sociability (2.7 %), and for the secundiparous mothers a low degree of defensivity (4.0 %). For the primiparous mothers, one's own experiences in childhood explained 3.8 % of the total variation: satisfaction with one's own upbringing, a mother's own mother's love and her father's impunitive consistent behaviour were of predictive value regarding her own intentions to show love to her child. The further variables would remove very little of the unexplained variation (1.9 %), though these

were important factors as regards the actual situation: happiness of the marriage (0.5 %), analytic approach to problem solving (0.4 %), and planning pregnancy (0.2 %). These factors were excluded from the model, because of the small gain in the r^2.

For the secundiparous mothers it was not one's own experiences in childhood which had any direct predictive value in the model but instead the emotional and cognitive readiness to encounter problematic facts and situations in a liberated, realistic way without defenses, and a willingness to obtain knowledge about upbringing.

Dimension of authoritarian control

There was a big difference in the explanation power of the regression models for the primiparous and secundiparous mothers as regards variation in the data about authoritarian control (table 4).

(insert table 4 here)

The best regression model explained very significantly only 5.3 % of the variation for the primiparous mothers but 17.8 % for the secundiparous mothers.

It was one single factor - a mother's own mother's punitive, inconsistent, demanding behaviour during her

childhood - which predicted most of the variation in the primiparous mother's intentions to use control in child rearing. For the secundiparous mothers the regression model included several variables of one's own experiences in childhood and in the actual situation, and those of the personality. Child rearing practices of a mother's own parents were the most powerful predictors of her own intentions to use authoritarian control: her own mother's punitive, inconsistent, demanding behaviour explained 5.4 % in the variation; more than any single variable in this study. One's own father's similar behaviour, and a mother's general satisfaction with her own upbringing brought the percentage variation up to 7.6 % as regards the predictive value of mother's experiences in her own childhood.

A mother's personality was of high predictive value: neuroticism, and sociability explained 6.6 % of the total variation and impulsivity increased this percentage variation up to 7.9 %, about the same percentage variation as was the case regarding one's own upbringing. Living in a remote area and unhappiness in the marriage caused a slight increase in the r^2 in a mother's intentions to use authoritarian control in child rearing.

The following questions on the function of personality may be posed: (1) does a pattern of neuroticism

associated with sociability and non-defensive behaviour really be predictive of authoritarian control, or (2) are there other factors which have had an effect on these results.

The factor used for defining dimension of control consisted of variables which were diverse in their strength and content of control (see "methods"). The different correlations of sociability and neuroticism with these variables makes the results of the regression model more understandable. Sociability had significant positive correlations with the variables of mild ways of control: scolding and getting angry with the child. Neuroticism correlated significantly with the variables of more severe punitive practices of control (Seitamo & Wasz-Höckert 1983). To obtain a more differentiated sum-scale for the regression model of control it might be useful to choose a factorization of 5-6 factors as a basis for dimensions of two kinds of control: dimensions of mild and of severe authoritarian - punitive control.

Child development

Follow-up study

The results of testing the third hypothesis as regards significance of adequacy in mothering, of dimensions of love and authoritarian control for child development

(table 5) lend support to the hypothesis, though there are differences in the correlations of mother groups.

(insert table 5 here)

Adequacy in mothering was a more powerful predictor of the second born child's development than of the first born child's development. A high decree of adequacy in mothering predicted high degree of sociability, and of goal-directed behaviour and a low degree of fear of imaginary beings in the second born children; and development of good relationships with other children in the first born. A tendency not to be afraid of school was also connected with it.

The dimensions of intentions to show love to the child was of most significance in predicting favorable child development in both first and second born children: most strongly in predicting goal directed behaviour and ability to apologize and make amends for having behaved inappropriately. It was also predictive of general adaptability and social behaviour. For the first born children it also predicted positive attitudes towards starting school and lack of fearfulness towards it.

The dimension of authoritarian control was predictive of aggressive, selfish behaviour: in the first born children a high degree of authoritarian control was

connected with high degree of aggressive teasing, and in second born children in egoistic and exasperating behaviour.

CONCLUSION AND DISCUSSION

The results indicate that our model covers some crucial factors of early mother - child relationship which have a predictive value for child development and which can be understood in the context of the factors of the model.

We can detect a more direct and a more complicated strain of the processes which have a role in early mother - child development: by learning attitudes and practices from home in childhood, and the attitudes and practices mediated by personality. For the primiparous mothers sociability - general readiness for social relationships - emerges as an even more important factor than one's upbringing, but for the secundiparous mothers it is one's own upbringing which is the most important factor, while sociability follows as second in importance in these respects. The responses of the secundiparous mothers are more differentiated in the sense that more frequent factors offered additional information about the preconditions of the early mother child relationship, and their responses could be better explained by our model. First of all, cognitive aspects

of mastering the mother - child relationship such as planning pregnancy and motivation to acquire knowledge about upbringing, were of significance for their early responses, as well as emotional emancipation from defensive block factors. Happiness of the marriage was of some significance.

Early mother - child relationship was of predictive value for child development. The most important factors were positive aspects - adequacy in mothering and intentions to show love in child rearing - which predicted development of goal directed, sociable, adaptive behaviour. Intentions to use authoritarian control predicted development of egoistic, exasperating behaviour.

The fact that the correlations concerning negative attitudes of two generations were not as strong in the group of primiparas as in the group of secundiparas points to a period of high sensitivity in motherhood, among the primiparas, favorable to reinforcing adequate and positive attitudes before the attitudes of a mother's home in childhood have become part of everyday practice in a mother's own behaviour.

The significance of willingness to obtain knowledge about upbringing could be observed in the secundiparous mothers. So far as health education is concerned we

assume that inadequate aspects of the "psychosocial inheritance" can be altered for the better by becoming better informed and by working in study groups on family relationships. Inadequate early attitudes due to personality disturbances need more intensive prophylactic activity, including psychotherapy, for them to be replaced by more positive human relationships.

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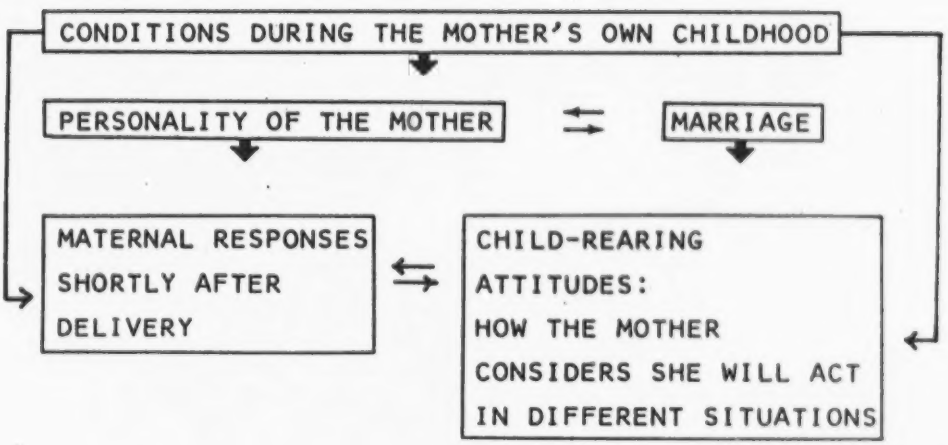
CONDITIONS DURING THE MOTHER'S OWN CHILDHOOD
PERSONALITY OF THE MOTHER
MARRIAGE
MATERNAL RESPONSES SHORTLY AFTER DELIVERY
CHILD-REARING ATTITUDES: HOW THE MOTHER CONSIDERS SHE WILL ACT IN DIFFERENT SITUATIONS

Figure 1. Model of evaluation of early mother - child relationship.

TABLE 1. Significant correlations of maternal behaviour in a mother's childhood with her maternal responses and intentions in child rearing.

	I-parae (309) r	II-parae (182) r	Total (491) r
Rewarding attitudes of own mother and a mother's reactions			
breastfeeding at first			
pleasant	.11*	.11	.11*
successful	.13*	.05	.12**
likes to have her baby beside her	.11*	.05	.10*
intends to reward child	.20***	.12	.18***
reinforce child to express joy/pleasure	.19***	.11	.18***
take child on lap	.16**	.08	.15**
joke with child	.12*	.17*	.13**
talk about sexual matters	.22***	.05	.16**
Punitive attitudes of own mother and a mother's reactions			
can look after child	-.12*	-.09	-.10*
breastfeeding at first painful	.05	.26***	.14**
wants to look after child for a long time	-.05	-.20**	-.11*
intends to use punishment	.13*	.33***	.20***
physical punishment	.20***	.30***	.23***
will comfort child	-.16**	-.17*	-.16**
reward child	-.13*	-.08	-.12**
restrict crying	.06	.16*	.12**
take child on lap	-.06	-.16*	-.10*
talk with child	-.11*	-.06	-.10*

* = $p < .05$
** = $p < .01$
*** = $p < .001$

TABLE 2. Maternal responses. Adequacy in mothering. Step-wise regression analysis.

Primiparous mothers

F = 7.508 df 1 = 4; df 2 = 304 $p \approx 0$

	Regr.C	SD	t	$100R^2$%	increase in $100R^2$%
constant term	16.4953				
sociability	.1804	.048	3.719	4.2	(4.2)
analytic thinking	-.2234	.125	-1.777	6.8	2.6
content with own upbringing	.4544	.239	1.899	8.1	1.3
defensivity	-.2151	.122	-1.763	9.0	0.9
				of total 11.9	

Secundiparous mothers

F = 4.982 df 1 = 6; df 2 = 173 $p < .0001$

	Regr.C	SD	t	$100R^2$%	increase in $100R^2$%
constant term	8.0541				
content with own upbringing	.7864	.271	2.899	4.9	(4.9)
sociability	.1204	.059	2.029	8.2	3.3
own mother impunitive	.2215	.105	2.095	10.4	2.2
impulsivity	-.1255	.066	-1.885	12.3	1.9
child planned	.1089	.063	1.708	13.7	1.4
read/talk about upbringing	.2591	.175	1.474	14.7	1.0
				of total 16.2	

TABLE 3. Aims in child rearing. Dimension of love. Step-wise regression analysis.

Primiparous mothers

F = 5.252 df = 4; df 2 = 304 p < .0004

	Regr.C	SD	t	$100R^2$%	increase in $100R^2$%
constant term	35.9112				
sociability	.1449	.052	2.753	2.7	(2.7)
own mother's love	.2914	.123	2.360	4.4	1.7
father impunitive	.2458	.118	2.067	5.6	1.2
content with own upbringing	.4552	.264	1.719	6.5	0.9
				of total 8.4	

Secundiparous mothers

F = 7.465 df 1 = 2, df 2 = 177 p < .0014

	Regr.C	SD	t	$100R^2$%	increase in $100R^2$%
constant term	39.6663				
defensivity	-.4847	.178	-2.716	4.0	(4.0)
read/talked about upbringing	.6188	.229	2.698	7.8	3.8
				of total 10.3	

TABLE 4. Aims in child rearing. Dimension of control. Step-wise regression analysis.

Primiparous mothers

F = 14.089 df 1 = 1; df 2 = 307 p < .0002

	Regr.C	SD	t	$100R^2$%
constant term	29.5522			
own mother punitive	.6131	.167	3.665	4.4 of total 6.9

Secundiparous mothers

F = 4.640 df 1 = 8; df 2 = 171 p ≈ 0

	Regr.C	SD	t	$100R^2$%	increase in $100R^2$%
constant term	29.5779				
own mother punitive	.3686	.176	2.084	5.4	(5.4)
sociability	.2817	.087	3.203	8.3	2.9
neuroticism	.1484	.074	1.999	12.0	3.7
defensivity	-.5420	.226	-2.388	13.3	1.3
father punitive	.3568	.177	2.015	14.6	1.3
marriage happy	-.6282	.409	-1.535	15.8	1.2
remote district	.4325	.274	1.573	16.9	1.1
content with own upbringing	-.6201	.441	-1.405	17.8 of total 19.1	0.9

TABLE 5. Significant correlations of maternal responses and of intentions in child rearing with variables of child development.

Mother's behaviour	Child behaviour I-born children N = 228	II-born children N = 126
adequacy in mothering:	good relationships with playmates .18**	F sociable .19*
	plays with other children .15*	F goal directed .21*
		F fear of imaginary beings -.20*
dimension of love:	F goal directed .19**	.29***
	F makes amends .18**	.23*
	F adaptability .12(*)	.21*
	likes to start school .21**	good relations with playmates .21*
	no fear of school .23***	
dimension of control:	F agressive teasing .14*	F egoistic .19*
	doesn't play with other children .12(*)	F exasperating behaviour .15(*)

(*) = p < .10
* = p < .05
** = p < .01
*** = p < .001

F = factor score